SERENDIPITY

Not only computing — also art

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Arts, Manufactures and Commerce

Over the past year or so, a group of us under the indefatigable chairmanship of David Firnberg, has been devising problems for students to tackle in a new design bursary scheme for the Royal Society of Arts — or, to give its correct title, the Royal Society for the Encouragement of Arts, Manufactures and Commerce. The Society was founded in 1754 and for a good many years has been running annual competitions for students in the conventional design professions: ceramics, fashion, furniture, industrial design and so on. The prizes in these competitions are much sought after because they are usually in the form of travel bursaries which allow successful students to do study tours in various parts of the world — as well as to take up short term placements with well known design practices and forward-looking manufacturing companies. To win the awards, the students have to solve a set design problem relevant to their particular disciplines and submit a portfolio illustrating the results. Even after they have taken up the awards their work is not finished since they are required to submit an illustrated report on their travels and placements — many of these reports being excellent design works in themselves.

The new bursary scheme is aimed at designing for the communications and information technology industries. This year we have set three optional problems for the students to tackle. These are: to design the dialogue and interface to an automatic teller machine (ATM) — on the assumption that the next generation of these will have considerable built-in intelligence and computing power; to discuss and illustrate the possible impact of CAD (Computer Aided Design) on the early, conceptual stages of designing — noting that the present generation of CAD systems are generally only applicable to the detail design phases; or to design and produce an annual company report using desktop publishing techniques.

We believe these problems will be of interest not only to the students who normally submit in great numbers to the RSA bursary competitions, but also to the new contingent of students who study information design, computer graphics and human/computer interaction. The ATM problem, in particular, could be best tackled by two students of different disciplines — say, a product designer and a computer scientist, or a graphic designer and a computer graphics student. We hope that the response to the competition will be considerable and that student designers will then begin to see the possibilities of applying their skills to the design problems of the IT sector.

The number of bursaries available depends, of course, on the generosity of commerce and industry in donating money and placement positions. The RSA has had some success in getting funding and positions for the new scheme, notably from Midland Bank and British Olivetti, but conventional computer companies have hardly responded at all. Design in the IT sector is important and the computer industry *should* be funding this initiative. The gains both to the student and the hardware and software industries are immeasurably greater than the relatively minor costs involved. I hope readers of this column in a position to influence financial

Fig. 1

Fig. 2

decisions will do so in favour of the bursary scheme. I will show some of the results of the competition in a later issue.

The origin of form

There is a fascinating art exhibition touring the country at the moment. It deals with the work of the sculptor William Latham who is a PhD student at the Painting School of the Royal College of Art. For the last two years or so William has been a visiting fellow at the IBM Scientific Centre, Winchester where he's been able to use their considerable software and hardware facilities to develop a series of "sculptures" some of which are being seen for the first time in the exhibition. I put the word "sculptures" in quotation marks not because I think that William's art works should be called something else, but because they exist only as pictures and not as real, three dimensional objects. They can, perhaps, be considered as illustrations of the sculptures William would make if suitable materials and circumstances existed — although it is probably better to think of them as art works in their own right.

The illustrations are created by means of the computer graphics techniques of solid modelling and solid texturing via programs developed by workers at the Scientific Centre. William is lucky to have the cooperation there of a talented and sympathetic collaborator, Stephen Todd, who has provided him with powerful tools for developing his ideas. In particular, Stephen has set up a graphics programming language, ESME, which allows William to create his forms as an accretion of operations of his own devising in sympathy with his evolutionary approach to sculpture. Starting with a simple form, such as a cone or a sphere or an egg-shape, William performs on it operations such as slicing, twisting, pinching and so on according to the "rules of evolution" he sets up for a given group of works. This approach contributes to the idea of making not just single sculptures but whole families of related ones.

As one of William's PhD supervisors I'm particularly proud to be able to feature some of his work in the first of our full colour issues of the new *Computer Bulletin*. Please see the exhibition when it comes to a town near you. It is an exemplary instance of the effects of cooperation between artists, computer scientists and the generosity of a sponsoring company.

Figs. 1-6 are examples of computer "sculptures" from IBM Scientific Centre.

Fig. 3

Fig. 4

Fig. 5

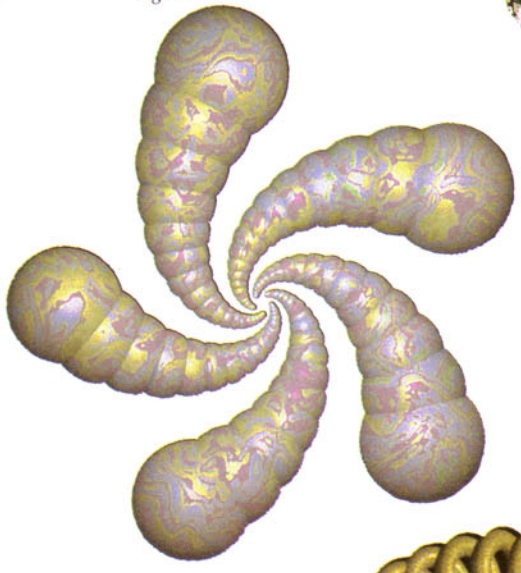

Fig. 6